

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017792**Date Inspected:** 23-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspectors: ZPMC: Mr. Geng Wei; ABF: Mr. Li Shi You

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure WPS-B-T-2232-TC-U4b-F make OBG segment 13CE weld VP3008-001-015. This QA Inspector measured a welding current of approximately 300 amps, 31.0 volts and Mr. Chen Chuanzong appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Tu Zhi Wu, stencil 214945 used flux cored welding procedure WPS-B-T-2232-TC-U4b-F make OBG segment 13CE weld VP3008-001-016. This QA Inspector measured a welding current of approximately 275 amps, 28.0 volts and Mr. Tu Zhi Wu appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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This QA Inspector observed ZPMC welder Ms. Wang Min, stencil 044771 used submerged arc welding procedure specification WPS-B-T-2221-B-L2C-S-2 to make OBG segment 14E weld SEG3019AZ-016. This QA Inspector measured a welding current of approximately 660 amps, 32.0 volts and Ms. Wang Min appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. He Hanbi, stencil 202122 used flux cored welding process to attach lifting eye plates to OBG segment 14E corner assembly plate SP3093A. This QA Inspector observed Mr. He Hanbi appeared to be certified to make this weld and ABF CWI Mr. Li Shi You was monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC personnel performed heat straightening of OBG segment 13AE plate KP3006-001. ZPMC QC personnel monitored this activity and ZPMC has issued heat straightening document HSR #9665 for this activity. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xi Xianyou, stencil 047866 used flux cored welding procedure WPS-B-T-2232-TC-U5-F to make OBG segment 13AW weld SEG3013J-122. This weld joins floor beam FB3088 to bottom plate BP3074A. This QA Inspector measured a welding current of approximately 300 amps and 31.0 volts. Mr. Xi Xianyou appeared to be certified to make this weld and the base materials were preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Pan Wei, stencil 218662 used shielded metal arc process to tack weld floor beam FB3220-001 to floor beam FB3036-001. This QA Inspector observed a welding current of approximately 185 amps and the shielded metal arc welding electrodes were stored in an electrically heated electrode storage container which was warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

### Blast Shop 1

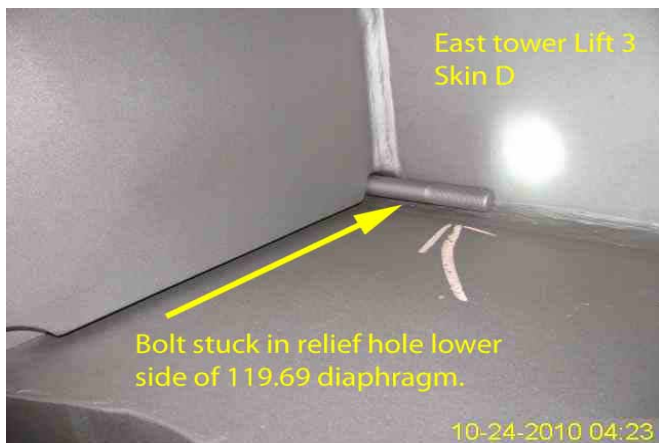
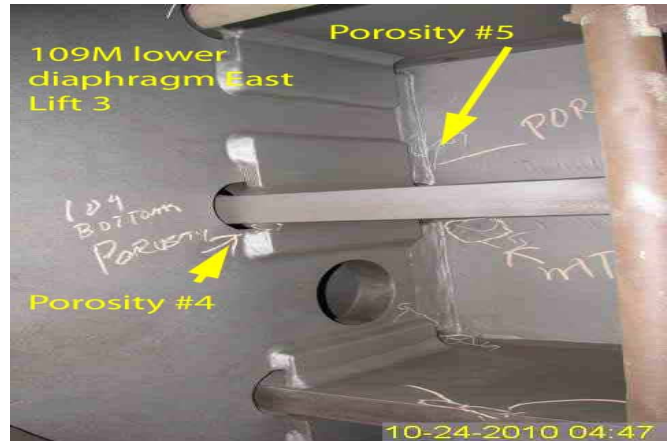
ZPMC requested Caltrans personnel to perform visual inspections of East Tower Lift 3 interior surfaces between 99 meters elevation to 114 meters on October 24, 2010 at around 03:00 hours following the initial pre-blast cleaning of the steel surfaces. This QA Inspector along with QA Inspectors Mr. George Goulet, Mr. Mike Hasler and Mr. D. J. Shin performed random visual inspections of these areas. This QA Inspector visually observed approximately 30 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections and approximately five areas that require magnetic particle inspections. This QA Inspector observed ZPMC has identified two areas of porosity in a weld located at the bottom surface of elevation 99 double diaphragm, adjacent to skin plate "C" that require weld repairs. This QA Inspector observed one additional area of porosity in the same weld. All three areas of porosity have been identified as requiring weld repairs. See the photographs below for additional information. This QA Inspector issued a "Blast Inspection" report to document the results of these inspections.

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## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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### Summary of Conversations:

See Above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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